



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/595,391

02/01/2007

Bernd Dollgast

071308.0696

8571

31625

7590

04/01/2008

BAKER BOTTS L.L.P.

PATENT DEPARTMENT

98 SAN JACINTO BLVD., SUITE 1500

AUSTIN, TX 78701-4039

EXAMINER

GORDON, BRYAN P

ART UNIT

PAPER NUMBER

2834

MAIL DATE

DELIVERY MODE

04/01/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/595,391	<b>Applicant(s)</b> DOLLGAST ET AL.	
	<b>Examiner</b> BRYAN P. GORDON	<b>Art Unit</b> 2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 March 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 16-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 March 2008 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>02 January 2007</u> .   | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Election/Restrictions*

1. Claims 16-21 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected Group II, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 13 February 2008.

### *Drawings*

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the axially running edges of the piezo stack which form an at least six-sided polygon must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New

Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-5, 8-12 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Fitzner (DE19715487).

5. Considering claim 1, Fitzner (Figure 3) teaches a piezo actuator, in particular a piezo actuator for actuating an injector for an injection system of an internal combustion engine (paragraph 2), comprising a holder for spatially fixing a piezo stack (1) and two associated connection pins (3) for electrical contacting of the piezo stack, wherein the holder is implemented as an individual mount for accommodating and holding only a single piezo stack with two associated connection pins.

6. Considering claim 2, Fitzner (Figure 3) teaches wherein the holder has an edge guard (4) for protecting an axially running edge of the piezo stack.

7. Considering claim 3, Fitzner (Figure 5) teaches wherein the edge protection has at least one axially running rib (13) which covers an axially running edge of the piezo stack.

8. Considering claim 4, Fitzner (Figure 3) teaches wherein the edge protection (4) covers two axially running, opposite edges of the piezo stack.
  9. Considering claim 5, Fitzner teaches wherein between the edge guard and the piezo stack there is a gap large enough to allow a potting compound to penetrate during encapsulation (paragraph 15).
  10. Considering claim 8, Fitzner teaches wherein the connection pins are fixed in the holder in a form-fit and/or force-fit manner (paragraph 14).
  11. Considering claim 9, Fitzner (Figure 5) teaches wherein the connection pins (3) are extrusion-coated or molded (8) in with the material of the holder.
  12. Considering claim 10, Fitzner teaches wherein the holder essentially consists of plastic (paragraph 15).
- Considering claim 11, Fitzner (Figure 5) teaches wherein the two connection pins are fixed in the holder in two radial bearings (2) in each case.
13. Considering claim 12, Fitzner (Figure 1) teaches the two connection pins are axially fixed in the holder in a thrust bearing (2) in each case.
  14. Considering claim 15, Fitzner teaches wherein the holder with the inserted piezo stack and the inserted connection pins is encapsulated with a potting compound (paragraph 14).

***Claim Rejections - 35 USC § 103***

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

Art Unit: 2834

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

17. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

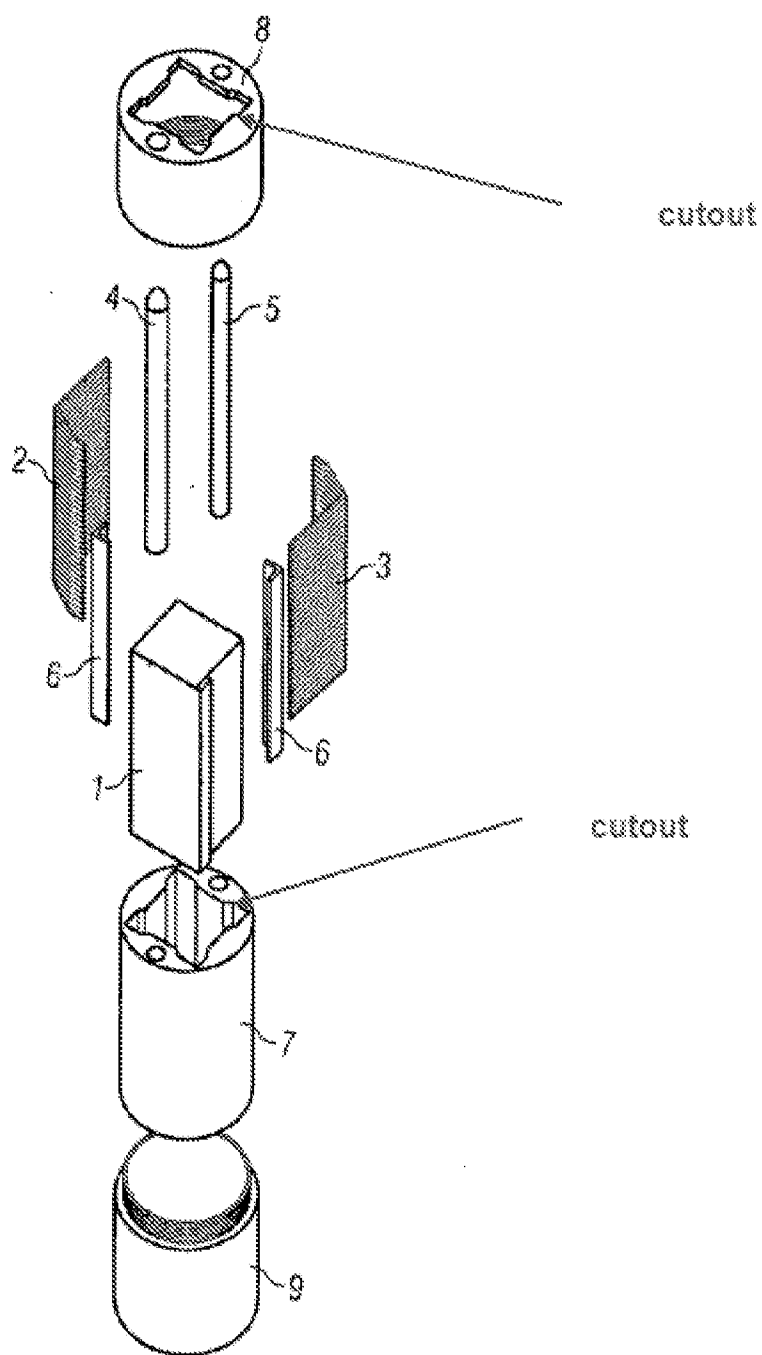
18. Claims 7 and 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fitzner (DE19715487) and further in view of Mohr (WO 2004004021).

19. Considering claim 7, Fitzner does not teach the polygon is essentially equilateral in order to allow wire winding with approximately constant wire tension.

In the same field of endeavor, Mohr teaches wherein the polygon is essentially equilateral in order to allow wire winding with approximately constant wire tension (page 2, paragraph 4) for the benefit of operating the device.

Art Unit: 2834

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include polygon is essentially equilateral in order to allow wire winding with approximately constant wire tension with Fitzner's device for the benefit described above.



**Figure 1**

20. Considering claim 13, Mohr (Figure 1) teaches wherein the holder has a first end plate with a cutout for guiding the piezo stack at one end and a second end plate with a



cutout for guiding the piezo stack at its other end, the two end plates being interconnected by ribs (6).

21. Considering claim 14, Mohr teaches wherein the cutout in the first end plate and/or the cutout in the second end plate is larger than the cross-sectional area of the piezo stack in order to allow the penetration of potting compound.

22. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over as Fitzner (DE19715487) and in view of Mitarai (PG Pub 20020053860).

23. Considering claim 6, Fitzner does not teach a six-sided polygon.

In the same field of endeavor, Mitarai (Figure 8) teaches a six-sided polygon (1) for the benefit of forming the device.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a six-sided polygon with Fitzner device for the benefit described above.

### ***Conclusion***

24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRYAN P. GORDON whose telephone number is (571)272-5394. The examiner can normally be reached on Monday-Thursday 8:00-5:30, Friday 7:30-4:00.

25. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on 571-272-2044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2834

26. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/B. P. G./  
Examiner, Art Unit 2834  
/Bryan P Gordon/  
Examiner, Art Unit 2834

/Darren Schuberg/  
Supervisory Patent Examiner, Art Unit 2834